No.		Sex and age.	Reference.	Clinical course.	Supra-renal; size, etc.	Metastases.	Variety of sarcoma.
36	Rolleston and Marks, shown by Dickinson to Path.Soc. Lond., 1894	M. 57	Amer. Journ. Med. Sci., Oct., 1893.	Hæmaturia and renal tumor for 8 years; resembled Addison's dis.; pigmentation of axillæ, nipples, and body.	Right, with kidney size of man's head.	Pleura and lungs, liver, extending into vena cava, spleen.	Mixed-cell sarcoma.
37	“	F. 38	Ibid.	No jaundice; œdema of legs; inf. vena cava blocked.	Right.	Liver.	Round-cell sarcoma, hemorrh'ge
38	“	F. 55	Ibid.	No jaundice.	....	Bronchial glands.	Large-cell sarcoma.
39	“	M. 8¾	Ibid.	No jaundice; cerebral symptoms.	Left.	Brain.	Sarcoma.
40	“ Muir	M. 31	Ibid.	No pigment.	Right.	Invading liver and kidneys.	Small round cystic sarcoma.
41	“	F. 50	Ibid.	No pigment.	Left.	Large retroperitoneal tumor, 36½ lbs.	Cystic sarcoma.
42	Finny	M. 66	Dublin Journ. Med. Sci., Nov. 1899.	Skin darker than normal; left lung dull; no fluid on tapping; urine normal.	Left, fœtal head.	Right supra and lung, size of pullet's egg.	Mixed-cell sarcoma, giant cells.
43	Brüchanow	F. 32	Zeitschrift für Heilkunde, 1899, vol. xx.	Operated on for supposed subphrenic abscess.	Right, 18 cm. in diameter.	None.	Fibromyxosarcoma.
44	“	F. 58	Ibid.	Abdominal tum., explor. puncture.	Left, man's head.	Few on greater curvature of stomach.	Spindle-cell sarcoma.
45	“	M. 68	Ibid.	Ascites.	Right, 5 cm. in diameter.	None.	Angiosarcoma.
46	Dobbertin	F. 14 mo	Beitr. z. path. Anat. u. z. allg. Path., xxviii. p. 60.	Very hairy child.	Left, child's fist.	Mediastinal and mesenteric glands.	Sarcoma (?)

A CASE OF SARCOMA OF THE THIGH, FOR WHICH DISARTICULATION WAS PERFORMED THROUGH THE HIP-JOINT, WITH THE FORMATION OF A POSTERIOR FLAP.[1]

By John Chalmers Da Costa, M.D.,
OF PHILADELPHIA.

I MAKE this report fully recognizing the fact that disarticulation at the hip-joint is no longer a novel or even a notable operation, but in this particular case there were obstacles to the prevention of hemorrhage by any of the usual plans, and also to the removal of the extremity by any of the accepted incisions. Because of these obstacles and the manner in which they were overcome it seems proper to make a report.

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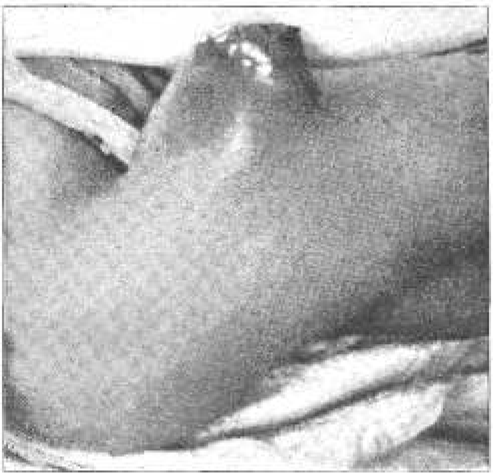
[1] Read before the College of Physicians of Philadelphia.

The patient, M. K., was a girl, aged fifteen years. The family history, so far as known, offered no fact bearing upon the cause of her disease. She had received no injury of any sort. Four months previous to her admission into the Hospital of the Jefferson Medical College she observed a hard, movable, and tender lump on the front of the upper portion of the right thigh. The lump was about the size of a hickory-nut, and seemed to be just beneath the skin. Iodine and other drugs were applied locally, but without avail. The tumor continued to enlarge rapidly, and in the course of a month attained the size of a hen's egg. From this time on the tumor grew with great rapidity, and upon admission into the hospital it had reached the dimensions shown in Fig. 1. Five weeks before her entrance into the hospital the skin over the tumor gave way in several places, and through these openings fungation occurred—a condition which was accompanied by an abundant flow of thin, reddish discharge. The patient's condition grew steadily worse, and when Dr. Keen and I saw her for the first time, on January 3, 1900, blood was oozing freely from the fungating masses.

FIG. 1.



CONDITION ON ADMISSION. The heart and lungs were found to be normal. The urine was acid, free from casts, albumin, and sugar; of a specific gravity of 1018, and contained 1.3 per cent. of urea. The girl was pallid and somewhat weak, and her family stated that she had lost some flesh, but not a great deal. The amount of hæmoglobin was 60 per cent.

On the upper and anterior portion of the thigh a somewhat conical mass about the size of a cocoanut was observed. The mass was firm, immovable, and extended laterally beyond the obvious outline as gauged by the eye. It also extended inward and seemed to have deep attachments. The limits of the tumor from above downward, estimated by palpation, were from the middle of the anterior portion of the thigh to two finger-breadths below Poupart's ligament; laterally it occupied almost half of the circumference of the thigh. Just above Poupart's ligament an enlarged gland could be distinctly detected. The gland was hard, immovable, placed above the muscle, and unconnected with the skin. The skin at the summit of the main mass had been destroyed, and the tumor was fungating, and blood was oozing freely. The skin over a considerable portion of the tumor was of a deep, purple-blue color, and at a number of points it was thin and knobby where additional fungation was about to occur. This discoloration of the skin was apparently congestive. Above Poupart's ligament and for several inches below it the skin was free from growth and appeared normal. It was impossible to detect any enlargement of the iliac glands. The growth was obviously a small-celled sarcoma, which had started superficially and grown in all directions, and which was accompanied by enlargement of some of the superficial glands above Poupart's ligament. The nature of the glandular enlargement was uncertain.

From what structure the sarcoma had originated was problematical, but it seemed probable that the growth had begun in the subcutaneous tissues.

On January 5th, two days after admission to the hospital, the bleeding became distinctly worse. Blood was found to be dripping steadily, and we feared the onset of a furious hemorrhage. Dr. Keen and I discussed the following problems:

1. Shall any operation be performed?
2. If disarticulation is decided upon, how shall hemorrhage during its performance be prevented?
3. If disarticulation be decided upon, how shall the flaps be fashioned?

Question 1. The obvious tumor above Poupart's ligament, supposing the involvement to be malignant, made it certain that the complete removal would be difficult and probably impossible; but there was a small chance that it might be accomplished. Without operation there was no possible chance for life, and early death was inevitable; with operation there was a slender chance that the girl might be saved. The convincing argument in favor of operation was the ominous bleeding, which increased daily in amount and threatened to become uncontrollable. We, therefore, decided to operate.

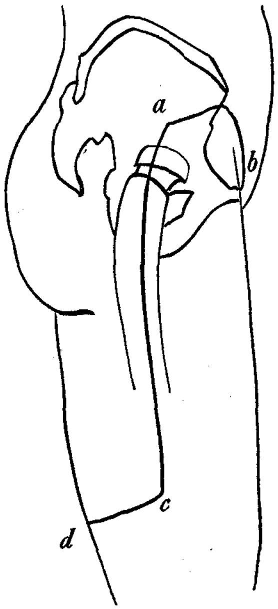
Question 2. The method to be used to prevent hemorrhage during the operation was carefully considered. No form of elastic constriction about the thigh was admissible, because the incisions would have to be carried through and above the region compressed by the band; we rejected the pins of Wyeth, the clamp of F. Tilden Brown, and the method of the elder Senn. The lever of Davy was not considered, because we regarded it as uncertain and as apt to become displaced, and because we thought it likely that it would injure the intestine. It is well known that Davy's lever is especially liable to damage the gut if applied to the right side. The abdominal tourniquet was rejected, because we regarded it as uncertain and as apt to injure the intestine. It became evident that choice must be made between Macewen's method of compressing the aorta with the fist; Charlot's method of exposing the iliac artery by an extraperitoneal incision and compressing it, and McBurney's method of opening the abdomen, and through this incision compressing the common iliac artery and vein against the psoas muscle. The last-mentioned plan, which was devised and first practised by Dr.

Charles McBurney, of New York city, was selected. We regarded it as more certain than any form of aortic compression, more rapid than compression after an extraperitoneal incision, and also more feasible than the latter method, because of the situation of the growth. We decided that the McBurney method would offer a notable advantage—that is, it would permit of an examination of the intra-abdominal structures, and if these were found to be demonstrably involved, we might, if we wished, then and there abandon the operation.

Question 3. The method of making the flaps was easily decided upon. The only region of the limb where sound tissue could be obtained was the posterior portion, hence it was obvious that the flap must be a single posterior one. Furthermore, in order to permit of the removal of enlarged superficial glands it was evident that the anterior incision would have to be so placed as to give access to structures above Poupart's ligament.

The Operation. On January 6th, after the administration of ether, Dr. Hearn opened the abdomen and found that there was no obvious intra-abdominal involvement. The leg and thigh were drained of blood by holding the extremity in a perpendicular position, and Dr. Hearn, with bent fingers, hooked the artery and vein firmly against the psoas muscle. The extremity was then placed in the position requisite for the performance of the operation, after which, assisted by Drs. Keen and Magie, I proceeded to operate.

FIG. 2.



a, *b*, the anterior incision; *a*, *c*, *d*, the external incision and the beginning of the posterior cut.

The outer posterior and anterior incisions are shown in the diagram. (Fig. 2.) The anterior incision was begun below and external to the anterior superior iliac spine. The incision was carried to Poupart's ligament and along the line of the ligament until it was over the middle of that structure, when it was taken downward and inward to the inside of the thigh and to a point about three inches below the crotch. This incision divided the skin only. The upper margin of the skin flap was dissected upward, and the cellular tissue and glands above Poupart's ligament were dissected from above downward and were left attached to the portion which was to be removed, a little below Poupart's ligament. The femoral artery and vein were exposed below Poupart's ligament, then tied, and divided.

A long posterior flap was marked out by skin incisions, the muscles were divided, the flap was dissected up, and the disarticulation was carried out from in front and was extremely easy. All visible vessels were then ligated and the hæmostasis was absolutely satisfactory. The flap was trimmed to fit, was buttonholed in order to secure posterior drainage, and was sutured in place by silkworm-gut sutures inserted at the skin margins. Two supporting sutures were also used, and were fastened upon perforated lead plates. The end of a piece of iodoform gauze was carried into the acetabulum, the other end emerging between the flaps; and a drainage-tube was passed to the depth of the wound, the free end projecting through the buttonhole in the posterior flap.

While the flaps were being sutured Dr. Hearn closed the wound in the belly wall. During the operation three pints of hot saline fluid were infused into the median basilic vein. The inner portion of the amputation wound was covered with a thin film of cotton, and several layers of collodion, to prevent contamination with excreta. The wound in the belly wall was dressed with gauze, held in place by collodion. The stump was dressed with gauze held in place by bandages.

There was very little shock, and the patient reacted quickly and completely. The recovery from the operation was uneventful; the highest temperature attained having been 99.5°. The inner three-quarters of the wound healed by first intention; the weight of the flap pulled the outer quarter of the wound open. Two weeks after the operation there was a granulating surface at the outer angle, where the wound had gaped, and a sinus in the lower flap, where the drainage-tube had emerged; and the patient felt in excellent condition.

Unfortunately, the calm in this case was of brief duration; six weeks after the operation a suspicious thickening was discovered in the abdominal wall opposite the middle of the scar. At this point the skin gave way and bleeding began, and on March 1st it was evident that recurrence was rapidly taking place. The family were informed of the girl's condition, and, no further operation being possible and the patient wishing to be at her home, she left the hospital. I have not since heard of her, although there can be no doubt that she soon succumbed.

There are a great many methods of performing amputation through the hip-joint. Joseph Bell, in his *Manual of Surgical Operations*, says that at least twenty-five methods have been put on record, and that, including modifications, there are thirty-seven or thirty-eight surgeons who have each had an individual plan of operating. He says that the reason of this great complexity is the fact that amputation has usually been performed for cases of severe injury; that no less grave procedure was possible, and that the flaps had to be made as the surgeon was able to get them. In the case above reported the making of a posterior flap was looked upon as an unfortunate necessity. There is a positive disadvantage in this operation—*i. e.*, the flap is extremely heavy and tends to tear the wound open. If I am ever obliged to perform it again I will put no muscle at all into the flap, and will use at least four button sutures to give support. It is true that in this operation the femoral vessels can be quickly exposed and easily ligated, and that disarticulation can be readily effected from in front; but the disadvantages clearly outweigh the advantages, and the operation is justifiable only when it is done as a matter of necessity. I cannot speak too highly of the perfection of the hæmostasis by McBurney's method.

Dr. Coplin reports that the growth is a small-celled sarcoma; that the muscles are infiltrated, and that the bone is free from disease. The gland was, unfortunately, separated from the specimen and lost; and, therefore, I do not know whether it was or was not malignant. In a non-melanotic sarcoma of the thigh glandular involvement is not common, and yet we know that it may occur. It is quite certain that sarcomatous elements were lodged above Poupart's ligament; were not removed by operation, and grew with great rapidity after the operation had been performed.

STEREOAGNOSIS AND ALLIED CONDITIONS.[1]

By Charles W. Burr, M.D.,
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Recent writers have defined stereognosis as the faculty of recognizing the nature and uses of objects by contact by handling them. Astereognosis, or more properly stereoagnosis, is the inability so to recognize objects. Employed in this sense the terms are general, are used to denote a symptom, like the word palsy, and connote nothing as to the method by which objects are recognized nor the reasons for failure to do so. As the inability may be either central or peripheral, may depend upon failure of one or more of the primary sensations, or may be caused by disturbance in combining the sensations to form percepts, and as these are two very different things, they should be clearly separated. The ability to recognize objects is not a sense. It is not classifiable with the touch sense, the temperature sense, or any of the other senses. It is a method of perception. It is the grouping together of many different sensations, and from the sum of them drawing a conclusion as to what the object is: Sensation tells us an object has a certain size, form, weight, consistency, etc. Perception combining these decides it is a certain object and nothing else. Sensation furnishes the material on which perception works. The inability to perceive may be due to a failure of one or more of the forms of sensation, a lack of sensory data, or, as was said in my previous paper,[1] "the patient may have lost the tactile mental images, as we must call them till increased knowledge gives us a better name, stored up from past tactile experiences, and, therefore, having nothing with which to compare the sensations received, when, for example, he holds a knife; having no memory of what the sensations were when he held a knife before, he cannot perceive it." Thirdly, "the trouble may be in the act or process of grouping together the many and various sensations

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[1] Read at the meeting of the Philadelphia Neurological Society, December 17, 1900.

[2] A Case of Tactile Amnesia and Mind Blindness. Journal of Mental and Nervous Disease, May, 1897.